Cooperative Digital Infrastructure for Kerala

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Summary:
Kerala occupies a distinctive position within India as a state with uninterrupted democratic planning and a deeply embedded cooperative economy, with PACS mobilizing over ₹1.16 lakh crore annually, Kerala Bank operating statewide, and cooperatives active across key economic sectors.

The growing reliance on privately owned digital platforms to organize agriculture, mobility, food delivery, tourism, and services poses structural risks for Kerala's cooperative economy. The challenge for the next Five-Year Plan is not digitization itself, but who owns, governs, and embeds the digital systems shaping markets, labor, and data. This proposal calls for a coordinated shift by **(1)** replacing isolated digital projects with shared, cooperatively owned platforms, data systems, and public–cooperative cloud services; **(2)** integrating these systems into existing cooperative and public institutions—including PACS, Kerala Bank, federations, IT cooperatives, and procurement systems—to reduce duplication and avoid vendor lock-in; and **(3)** ensuring durability through democratic governance, open standards, data sovereignty, and stable demand via regulation and cooperative-friendly procurement. Rather than creating parallel programs, this approach keeps digital value, employment, and capacity anchored within Kerala's cooperative economy.

An accompanying annex maps Kerala's cooperative institutions to proven international "digital cousins," showing how shared, member-owned digital infrastructure already functions in practice across sectors and translating these experiences into concrete lessons for Kerala's planning process.

1. Rationale and Context

Kerala occupies a unique position in India as the only state with continuous democratic planning rooted in participation, social inclusion, and knowledge-driven development, as reaffirmed in its Fourteenth Five-Year Plan (2022–27), which identifies cooperatives as structural actors in capital formation across agriculture, industry, services, and retail. With Primary Agricultural Cooperative Societies (PACS) mobilizing approximately ₹1.16 lakh crore (~ $12.7 billion) annually, Kerala Bank positioned as a flagship statewide cooperative financial platform, and a dense cooperative ecosystem spanning paddy, rubber, coir, cashew, spices, fisheries, healthcare, education, IT, tourism, welfare services, cloud kitchens, and Ayurveda, Kerala already functions as a cooperative powerhouse within the Indian economy. Cooperatives run hospitals and research centers, IT firms, welfare societies, fisheries federations, consumer retail, tourism ventures, and women-led enterprises. At the same time, consumer cooperatives

have played a documented role in stabilizing essential commodity prices since 2016, including in sectors such as stationery and other household essentials.

Cooperatives continue to uplift rural livelihoods, support women, and anchor territorially embedded development across the state.

1.1. Core Proposition

The central challenge for the next Five-Year Plan is not digitization itself, but its institutional design. This proposal calls for a strategic *shift from isolated platforms toward shared, cooperative digital infrastructure,* formally recognizing worker- and member-owned platforms, data cooperatives, software, and AI as core public economic infrastructure alongside finance, education, health, and physical assets.

Treating digital platforms as infrastructure rather than technology, it aligns global cooperative experience with Kerala's existing institutions such as PACS, federations, Kerala Bank, and IT cooperatives, drawing on international evidence.

The aim is not to replace existing state initiatives, but to increase their durability, autonomy, and public value by embedding them within cooperative structures and avoiding the failure modes of standalone, undercapitalized platforms.

1.2. Context

This proposal is submitted by Prof. R. Trebor Scholz (The New School/Harvard University), a scholar, policy advisor, keynote speaker, and organizer whose work focuses on cooperative economics, digital platforms, and democratic ownership of technology. Scholz is the founding director of the Platform Cooperativism Consortium and the Institute for the Cooperative Digital Economy at The New School in New York City. Over the past decade, his research and institution-building efforts have contributed to the emergence of platform cooperativism as an applied field of inquiry, linking cooperative practice with questions of digital infrastructure, labor, data governance, and public policy.

Scholz's engagement with Kerala is long-standing and cumulative, spanning legislative, research, and sector-facing contexts. In 2019, he delivered a keynote lecture at the Kerala Legislative Assembly, Thiruvananthapuram, as a guest of the Government of Kerala, situating questions of digital labor and cooperation within a legislative forum. In 2023, he co-convened the international conference *Roots of Resilience* together with the Government of Kerala and the Kerala Development and Innovation Strategic Council (K-DISC), held at the ULCCS–Kerala Arts and Crafts Village. That convening culminated in the Thiruvananthapuram Declaration, which affirmed a collective commitment to democratic, cooperative, and just digital futures. Conference materials and documentation are available here. Media coverage appeared in *Co-op News*.

In April 2025, Scholz delivered a keynote address at the Kerala COOP EXPO at Kanakakkunnu Palace Grounds, by invitation of the Department of Cooperation, Government of Kerala. This address engaged directly with Kerala's cooperative sector, PACS, federations, cooperative managers, and practitioners,

focusing on platform cooperatives, shared digital infrastructure, and lessons drawn from comparable initiatives internationally.

In parallel to these public engagements, Scholz has contributed a series of research publications directly focused on Kerala's cooperative and digital economy. These include commissioned and collaborative papers and reports such as *Platform Co-ops in India: Cases of Gujarat and Kerala* (PCC–ICDE), a comparative study examining institutional conditions for cooperative platforms at the state level; *Platform Co-op Markets? Insights from Kudumbashree in Kerala* (2022), a PCC-commissioned report analyzing cooperative market infrastructures and women-led digital initiatives; and a sequence of applied research articles and policy briefs on the Kerala Food Platform and tech-enabled food solidarity, published between 2022 and 2024.

Seen together, these publications document Kerala not as a speculative case, but as an empirically grounded site of experimentation in cooperative digital transformation.

2. Lessons from Prior Digital Experiments

Research on prior digital experiments shows recurring structural patterns in how digital cooperatives and public-cooperative hybrid platforms succeed or fail. The following section synthesizes these findings to explain the conditions under which digital initiatives endure, stall, or break down.

- *Isolated platforms consistently fail to scale*
  Public and cooperative digital initiatives struggle when built as standalone projects rather than as shared, federated digital infrastructure.

- *Lack of integration multiplies costs and fragility*
  Experiments that do not integrate government systems, cooperative ecosystems, and shared technical standards suffer from duplication, inefficiency, and short life cycles.

- *Dependency on foreign IT infrastructure undermines autonomy*
  Reliance on external cloud services, proprietary software, and non-sovereign data systems weakens public and cooperative platforms over time.

- *Business viability and cooperative autonomy must advance together*
  Cooperative platforms may require startup or catalytic funding from the government, but long-term sustainability depends on retaining operational autonomy, independent governance, and viable revenue models; when financial support compromises independence, durability is undermined.

- *Market access matters as much as technical design*
  Cooperative platforms repeatedly struggle without demand-side support, visibility, and protection from predatory competition by dominant digital firms.

- *Weak governance and legal alignment erode continuity*
  Experiments lacking stable legal frameworks, worker governance, and policy continuity remain vulnerable to electoral cycles, discretionary decision-making, and institutional backsliding. The legal context does not allow platform cooperatives to be incorporated in Kerala, for example.

3. Strategic Objectives (2027–2032)

3.1 Cooperative-Led Digital Economic Development

- *Enable cooperatives to operate digital platforms independent of extractive intermediaries*
  Advance cooperative-led digital platforms by securing cooperative ownership of software, data, and governance, reducing long-term dependence on private foreign intermediaries and enabling fair labor terms, local value retention, and institutional integration.

- *Prioritize shared, white-label digital platforms across cooperative sectors to reduce duplication and costs*
  Shared software means that multiple cooperatives use and jointly govern the same digital platforms or tools, rather than each building or buying separate proprietary systems. Shared licensing ensures that these tools remain collectively owned, adaptable, and protected from private capture, so that improvements benefit the entire cooperative ecosystem rather than external vendors.

- *Establish federated IT cooperatives and/or a public cooperative IT entity to build and maintain shared software, data services, and platforms*
  Establish federated IT cooperatives and/or a public cooperative IT entity to build and maintain open-source shared software, shared data infrastructure, and common technical protocols for cooperatives across sectors, enabling interoperable, low-cost, and cooperatively governed digital services without vendor lock-in.

- *Develop public-supported cooperative cloud and data-center services*
  Establish publicly supported cooperative cloud and data infrastructure services to provide secure, sovereign hosting, software, data management, and cybersecurity for cooperative digital platforms.

- *Invest in technical standardization: open standards, shared frameworks, interoperable systems*
  Invest in technical standardization through open standards, shared frameworks, and interoperable systems—drawing on Italy's Coop Italia (2,000+ stores, ~€18 billion in annual revenue, ~30,000 employees, 6.5+ million member-owners)—so that Kerala's cooperative digital platforms connect rather than operate in silos, enabling shared data, integrated services, and interoperable marketplaces across the state's cooperative economy.

- *Introduce public procurement preferences for software and digital services produced by platform cooperatives*
  Prioritize platform cooperatives in public procurement by giving preference to cooperatively owned software and digital services, ensuring that public spending strengthens democratic ownership, local capacity, and long-term public value rather than reinforcing extractive vendors.

- *Create a Kerala registry/database of cooperative businesses and platform coops, linked to licensing, procurement, and policy support*
  As part of Kerala's cooperative modernization agenda, establish a unified state registry of cooperatives and platform cooperatives—integrated with the Registrar of Cooperative Societies, Kerala Bank, and public procurement systems—to align licensing, eligibility for state support, and policy incentives with verified cooperative governance and performance.

- *Integrate government and cooperative digital systems (employment, social security, welfare, licensing)*
  Build on Kerala's existing e-governance infrastructure—where employment services, welfare delivery, licensing, and social security are already partially digitized—to more fully integrate government systems with cooperative digital platforms. This would allow cooperatives to interface directly with public systems for worker registration, benefits eligibility, payments, compliance, and reporting, reducing administrative burden while improving transparency, coverage, and coordination across employment, welfare, and cooperative sectors.

- *Invest in data security and digital sovereignty as economic infrastructure*
  Invest in data security and digital sovereignty as economic infrastructure by ensuring that data generated by Kerala's cooperatives, PACS, welfare programs, and public digital services is stored, governed, and processed within accountable public or cooperative systems rather than external commercial platforms, strengthening state- and cooperative-controlled hosting, cybersecurity, and data governance so that information on agriculture, credit, health, employment, and social protection remains secure, interoperable, and aligned with Kerala's planning, welfare, and cooperative mandates.

- *Position AI and digital government within an "agentic state" framework aligned with the solidarity stack*
  Embed AI and digital government within an "agentic state" framework aligned with the solidarity stack by using AI to strengthen public capacity, cooperative coordination, and worker agency rather than extraction or surveillance. This frames AI as shared public and cooperative infrastructure that supports planning, service delivery, and collective decision-making under democratic oversight.

3.2 Youth Employment, Knowledge Work, and Cooperative Innovation

- *Create pathways for youth-led platform, tech, and data cooperatives*
  This means creating structured programs through institutions such as K-DISC, the Kerala Startup

Mission, IT cooperatives, PACS, and universities that enable young people to form and own platform, technology, and data cooperatives providing services such as agri-marketplaces, mobility, care, education, and *local AI tools in Malayalam*, with access to cooperative finance, shared digital infrastructure, mentoring, and guaranteed public procurement pathways.

- *Treat AI, data, and digital tools as public knowledge infrastructure*
  Embed AI, data, and digital tools within Kerala's cooperative and public institutions as shared knowledge infrastructure, ensuring collective ownership, interoperability, and long-term social value.

- *Link Digital University of Kerala, cooperative training institutes, IT cooperatives, and sectoral federations*
  Create an integrated ecosystem that links the Digital University of Kerala, cooperative training institutes, IT cooperatives, and sectoral federations.

- *Establish an International School for Cooperative Management, Worker Leadership, and Cooperative Data Science and Coding*
  This institution would train a new generation of cooperative managers, worker-leaders, and technologists by integrating governance, leadership, data science, and coding into a single international reference school aligned with Kerala's cooperative economy.

- *Develop a distributed network of incubators, community labs, and summer/winter schools across territories*
  Develop a distributed network of incubators, community labs, and summer and winter schools across Kerala's territories to support locally rooted experimentation, skills development, and cooperative innovation while sharing resources and knowledge statewide.

- *Publish and distribute a statewide handbook on platform cooperativism*
  Develop and circulate a statewide handbook on platform cooperativism tailored to Kerala's cooperative ecosystem—drawing on PACS, Kudumbashree, Kerala Bank, IT co-ops, and sectoral federations—to provide practical guidance on governance, finance, and shared digital infrastructure aligned with the State's Five-Year Plan priorities.

- *Provide mentoring and training cycles on democratic governance and collective care within cooperatives*
  Offer structured mentoring and training cycles on democratic governance and collective care within cooperatives, anchored in Kerala's cooperative institutions and designed to strengthen leadership, member participation, and long-term organizational resilience.

- *Train public officers, regulators, and managers on platform cooperatives, data governance, and the solidarity stack*
  Build capacity among public officers, regulators, and cooperative managers on platform

cooperatives, data governance, and the solidarity stack, with Kerala-specific modules aligned to state planning, cooperative law, and institutions such as Kerala Bank, PACS, and K-DISC.

- *Integrate cooperative education into primary and secondary schooling*
  Embed cooperative education across primary and secondary schooling, drawing on precedents such as the Basque *ikastolak*—cooperatively governed schools that include early-childhood education—and adapting these lessons to Kerala's public education system.

- *Fund applied research, failure analysis, and cooperative-focused hackathons*
  Support applied research, failure analysis, and cooperative-focused hackathons to generate practical knowledge, shared learning, and iterative innovation across Kerala's cooperative ecosystem.

3.3 Data Sovereignty, Market Access, and Fair Competition

- *Ensure member-controlled cooperative data governance*
  Safeguard cooperative data under direct member ownership and control by treating data as a collectively governed asset across the AI stack—from data collection and training to deployment and feedback—so that cooperatives retain authority over how data is used, shared, audited, and value is returned to members rather than extracted by external platforms.

- *Establish a legal framework for data cooperatives*
  Establish a legal framework for data cooperatives, building on India's existing cooperative legislation and data-governance instruments—including the Digital Personal Data Protection Act (2023), cooperative society acts, and emerging fiduciary models—to recognize data as a collectively governed asset, enable member consent and stewardship, and support interoperable, sector-specific data cooperatives (e.g. agriculture, health, mobility, and care).

- *Introduce tax incentives for firms procuring from or employing platform cooperatives or Public-coop hybrids*
  Tax incentives linked to procurement from or employment through platform cooperatives and public–cooperative hybrids, modeled on existing Kerala support mechanisms for cooperative enterprises (including procurement preferences extended to Kudumbashree units, VFPCK-linked farmer groups, and consumer cooperatives), to shift market demand toward democratically owned digital and service platforms.

- *Create a public certification and labeling system for cooperative and platform-cooperative goods and services*
  Create a public certification and labeling system for cooperative and platform-cooperative goods and services, building on existing Kerala models for organic and ethical food labeling (e.g., state-supported organic certification and cooperative marketing schemes) to make cooperative ownership, fair labor practices, and democratic governance visible to consumers across digital

and physical markets.

- *Strengthen anti-dumping and market regulation against predatory Big Tech practices*
  Market-fairness and competition safeguards are required to protect cooperatives and platform cooperatives from predatory digital practices by dominant firms, including below-cost pricing, data-driven market foreclosure, and abusive contractual terms. Such measures should ensure a level playing field in sectors already affected in Kerala—such as mobility, food delivery, tourism services, and cloud kitchens—while reinforcing consumer protection, price stability, and the long-term viability of cooperative enterprises.

- *Align export-oriented cooperatives with national and international export promotion agencies*
  Export-oriented cooperatives in sectors such as coir, spices, cashew, handloom, Ayurveda, and processed foods should be systematically linked to Indian export-promotion bodies and relevant international trade platforms, enabling market access, certification support, logistics coordination, and branding assistance while retaining cooperative ownership and value within Kerala.

- *Integrate platform cooperatives with community banks, solidarity currencies, and basic-income programs*
  Integrating platform cooperatives with Kerala's existing cooperative banks, social protection schemes, and local economic programs would build directly on institutions that already reach deep into everyday life. Cooperative banks and PACS can provide patient credit, payment infrastructure, and working capital to platform co-ops, while benefiting from new member activity and stable deposits. Programs such as Kudumbashree, local employment guarantees, and state-supported income or welfare schemes can reduce risk for worker-owners, making it easier to participate in and govern cooperative platforms without falling into precarity.

- *Provide tax exemptions for community data centers and platform cooperatives*
  Targeted tax relief for community-owned data centers and platform cooperatives can lower entry barriers for cooperative digital infrastructure in Kerala, particularly for federated IT cooperatives, PACS-linked platforms, and Kudumbashree-supported enterprises. Such exemptions would support local hosting, reduce dependence on external cloud providers, and strengthen data sovereignty while anchoring digital value creation within the state's cooperative ecosystem.

3.4 Funding, Governance, and Policy Continuity

- *Establish a permanent, multi-stakeholder cooperative development fund insulated from electoral cycles*
  Establish a permanent, multi-stakeholder cooperative development fund, anchored in the Department of Cooperation and Kerala Bank, to ensure long-term, politically insulated investment in Kerala's cooperative and platform-cooperative ecosystem, including digital

infrastructure, innovation, and capacity-building.

- *Reduce bureaucracy through a single digital platform for cooperative credit and public finance access*
  Administrative complexity in accessing credit and public finance can be reduced by consolidating cooperative-facing schemes into a single, user-friendly digital platform in Kerala, integrating Kerala Bank, PACS, cooperative departments, and relevant state financing agencies. Such a system would streamline applications, standardize eligibility criteria, track approvals transparently, and significantly lower transaction costs for cooperatives—particularly smaller, rural, and women-led enterprises—while improving policy coordination and oversight.

- *Ensure transparent funding criteria, open calls, and participatory allocation processes*
  Transparency and accountability in cooperative financing can be strengthened through clearly published eligibility criteria, time-bound open calls for support, and participatory allocation processes involving cooperative federations, worker representatives, and relevant state agencies. Such mechanisms would reduce discretionary decision-making, increase trust across Kerala's cooperative ecosystem, and ensure that public resources are aligned with stated development priorities and inclusive outcomes.

- *Develop a Democracy Index and Fairwork-style benchmarking framework for cooperatives*
  A Kerala-specific Democracy Index and Fairwork-style benchmarking framework for cooperatives would create a clear, comparable set of indicators for democratic governance, worker voice, transparency, equity, and member benefit-sharing across sectors. Applied through periodic self-reporting, audits, and publicly available scorecards—linked to incentives in procurement, credit, and training—this framework would reward high-performing cooperatives, deter "false cooperatives," and strengthen the credibility and performance of Kerala's cooperative ecosystem.

- *Introduce incentives for high-performing cooperatives and penalties for false or extractive models*
  Implement a differentiated system of incentives and sanctions that rewards cooperatives with strong democratic governance, fair labor practices, and social value creation—especially in capital-intensive sectors—to prevent corporate-style capture and ensure public support in Kerala flows to genuinely member-owned enterprises.

- *Advance legal frameworks for hybrid, public/coop, and multi-stakeholder platform cooperatives*
  Legal frameworks should be advanced in Kerala to enable hybrid, public–cooperative, and multi-stakeholder platform cooperatives, reflecting the state's existing cooperative diversity

across PACS, Kerala Bank, Kudumbashree, IT cooperatives, and sectoral federations. Such frameworks would allow workers, users, public institutions, and technical contributors to co-own and govern digital platforms.

Global experience, from Kerala Savaari and Seoul's Baedal Teukgeup to successful public platforms in Rio de Janeiro and Shanghai, shows that digital platform success depends on federation, worker leadership, and shared infrastructure rather than isolated innovation.

Appendix A: Comparative "Digital Cousins" for Cooperative Digital Infrastructure

By R. Trebor Scholz

This annex is a comparative mapping tool that pairs Kerala's existing cooperative institutions with proven international "digital cousin" cooperatives to show how shared, member-owned digital infrastructure already works in practice across sectors. It translates global cooperative platform experience into concrete lessons for Kerala's planning process.

Sector / Policy Domain	Kerala Cooperative Institutions & Mandates	International "Digital Cousin" (Cooperative Model)	What the "Cousin" Demonstrates	Relevance for Kerala Planning
Agriculture & PACS	PACS; MARKETFED; KERAFED; VFPCK; Kudumbashree agri-units	GrownBy (USA)	Farmer-owned digital marketplace eliminating middlemen; shared logistics and data; transparent pricing	Shows how PACS and federations can operate cooperative marketplaces with data sovereignty rather than platform dependency
Consumer Goods & MSMEs	Consumerfed; Triveni stores; coir, cashew, handloom, garment, umbrella co-ops	EasyCoop (Italy)	Cooperative e-commerce at national scale integrated with physical retail; member governance; reinvestment	Demonstrates export- and diaspora-facing cooperative e-commerce without privatization
Mobility & Transport	Auto-rickshaw co-ops; EV initiatives; Teltron vehicles	The Drivers Cooperative (USA)	Driver-owned ride-hailing; transparent algorithms; higher take-home pay; policy influence	Shows viability of driver-led platforms vs state apps or corporate platforms

Electric Mobility & Climate	EV policy; public charging; transport co-ops	Som Mobilitat (Spain)	Cooperative EV sharing; reduced private car ownership; ecological governance	Aligns cooperative ownership with climate and mobility planning
Delivery & Logistics	Marketfed; Matsyafed; cloud kitchens; MSME distribution	CoopCycle (EU)	Shared digital platform owned by delivery co-ops; low platform fees (≈3%)	Shows importance of federation and shared infrastructure in logistics
IT & Digital Services	ITPCOS; COSTECH; Mitcoc; Kerala IT ecosystem	CoTech (UK); FACTTIC	Federated tech co-ops offering shared stacks, maintenance, and services	Demonstrates how tech capacity can be pooled rather than duplicated
Arts & Culture	Kerala Musicians' Co-op; temple musician unions; cultural co-ops	Stocksy United; Groupmuse	Artist-owned platforms ensuring fair pay and creative control	Shows how cultural labor can be platformed without precarity
Healthcare Platforms	EMS Memorial Co-op Hospital; KCHF; hospital federations	Allied Up (USA)	Worker-owned healthcare staffing platform; stable employment	Demonstrates alternatives to privatized care platforms
Care & Elder Services	CARE Kerala; Samarth Elder Care; Kudumbashree care units	Equal Care Cooperative	Multistakeholder care platform; trust-based governance	Shows how welfare services can be digitized without commodification
Banking & Financial Inclusion	Kerala Bank; PACS credit systems	Mwalimu SACCO; Stima SACCO (Kenya)	Mobile-first cooperative banking; microloans; youth engagement	Illustrates digital finance without Big Tech or private fintech capture

Data & Fisheries	Matsyafed (370,000+ members)	Pescadata (Mexico)	Cooperative data ownership for certification, pricing, sustainability	Shows data as collective asset, not extractive resource
Connectivity & Public Internet	Wi-Fi@Kerala; Kudumbashree IT units	Guifi.net (Spain); Zenzeleni (South Africa)	Community-owned broadband infrastructure	Demonstrates cooperative alternatives to telecom monopolies
Cleaning & Facility Services	Hospital co-ops; tourism and public-sector cleaning	Up & Go	Platform doubled worker pay; democratic governance	Shows platformization with dignity and stability
Education & Cooperative Learning	KICMA; Digital University; cooperative academies	READ-COOP; Transkribus	Cooperative AI for education and research	Demonstrates AI as cooperative knowledge infrastructure
Data Centers & Cloud	ITPCOS; COSTECH; Mitcoc	Data Center Light (CH); GADeG (DE)	Cooperative data centers; digital sovereignty	Shows feasibility of cooperative cloud as public infrastructure